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BRONCHIAL ASTHMA ASSOCIATED WITH FUNGUS-INFECTED MATTRESSES

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Van Leeuwen[1] was perhaps the first to suggest that fungi might cause bronchial asthma. He found that 50% of his asthmatic patients gave a positive skin test to airborne moulds. Cohen[2] reported 19 cases of asthma due to dust from mattresses on which the patients slept. The patients gave large reactions to extracts of this dust and obtained complete relief by substituting new mattresses for the offending ones. Cohen was of opinion that the mattresses had become infected with moulds which caused the asthma because extracts of dust from new mattresses gave no reaction in the patients whereas extracts of dust from mattresses which had been in use for several months did so. Brown[3] found that every specimen of house or mattress dust that had been cultured contained various fungi.

Waldbott *et al.*[4], assessing the importance of fungi in respiratory allergy, found positive skin reactions in 69% of 841 allergic patients tested. They thought that respiratory allergy due to a single fungus was rare but that fungi were more often complicating factors in cases of asthma and vasomotor rhinitis where multiple sensitivities existed in the patient. Among the fungi considered important the usual offenders were rusts, smuts and alternaria. Though Penicillium was the most common fungus found in the atmosphere of houses and in mucous secretions this fungus was of relatively minor significance clinically.

A perusal of any modern textbook of allergy, e.g. Vaughan[5], shows that a considerable literature has accumulated on the importance of airborne fungi as inhalant allergens. Feinberg[6] has presented a comprehensive review of the historical development and the contemporary views on this subject. Sensitivity to fungi should therefore not be overlooked in the etiological diagnosis of respiratory allergic conditions.

Among the fungi at present considered to be of clinical importance are the following: Alternaria, Aspergillus, Cladosporium, Cephalosporium, Chaetomium, Fusarium, Hormodendron, Helminthosporium, Mucor, Monilia, Penicillium, Rhizopus, rusts, smuts and yeasts.

An investigation is in progress in these laboratories with regard to the fungus spore content of the atmosphere and of the interior of local homes in relation to the clinical significance of various airborne fungi in allergic conditions.

CASE REPORT

A case of bronchial asthma is described which was associated with allergic sensitivity to fungi present in a mattress.

In January 1947 a patient was referred to me for asthma which came on at the seaside and nowhere else.

The patient had been born in Johannesburg and was a well-built unmarried man, aged 31, a teacher in a local school. Apart from the 'seaside asthma' he was in excellent health and had at no time suffered from asthma or hay fever in Johannesburg, or ever shown any signs of allergy. His father had 'difficulty in breathing' all his life, but the details were unknown. There was otherwise no history of allergy in the family.

Since 1935 the patient had been in charge of schoolboy camps at the seaside which he conducted regularly for three-week periods during the summer vacation (December-January) in Cape Town and during the winter vacations (July) on the South Coast of Natal. During the third of these camps he began to experience attacks of asthma and, subsequently, without fail, his asthma began a day or two after his arrival at the seaside camp and continued throughout the period of his stay there. The attacks, which occurred mainly at night, were mild in the first few nights of any camp but became progressively worse with each succeeding night. He was awakened usually about an hour after retiring by difficulty in breathing but obtained relief with ephedrine, fell asleep until morning, and awoke with a heavy 'hangover' feeling.

The asthma increased in severity in subsequent years and the patient became so short of breath during the later vacations that it was difficult for him to walk or eat and quite impossible to sleep.

Skin tests were carried out on the patient with animal danders, feathers, orris root and various South African pollens. There was a slight reaction (+) to cat and dog hair, a moderate reaction (++) to compositae pollen, and a well-marked reaction (+++) to grass pollen. Though the skin sensitivity to grass pollen might explain his asthma in the summer, it was no explanation of the winter occurrence of the condition. Further, during the grass pollinating season (October to March) the patient had no asthma so long as he remained in Johannesburg. This positive skin reaction

was clearly not an indication of a clinical grass pollen sensitivity.

There was no evidence in the clinical history suggesting food sensitivities and further investigation on this basis was postponed for later consideration if the search for more likely etiological factors yielded no explanation.

The most striking common factor in the vacation periods when asthma occurred was the 'camping out' which implied that the patient slept in a tent. Enquiry showed that tents wrapped in hessien sacking as well as ground sheets were hired for the schoolboys for each camp. About 70 mattresses belonging to the school were used at all the camping holidays and were stored in the inter-vacation periods, together with the patient's own tent, stretcher and mattress in an outhouse adjoining his home.

Extracts prepared from new pieces of canvas and hessian similar to the material from which the camp tents and equipment were made yielded only insignificant reactions by skin test. It was then thought that the storage of tent material might have led to the development thereon of moulds, but skin tests with extracts of the patient's tent canvas and hessian gave only minor reactions. However, to confirm the suspicion that the patient might be sensitive to fungi, preliminary scratch tests were carried out with extracts of a few of the commoner airborne fungi. A well-marked (+++) reaction was obtained to species of Monlia, Aspergillus and Cephalothecium. On being further questioned the patient recalled that he usually developed 'hay fever' whenever he handled his stored camp equipment and that on inspection tours at camp he had been unable to remain long in some of the tents because of tightening of his chest.

Petri dishes with Sabouraud medium were next exposed in the outhouse where the camping equipment was stored, and various fungi were obtained in culture. These were not identified at the time, but a combined extract of the fungal growths was prepared and used for skin testing. An intracutaneous injection of 0.02 ml. of the extract produced a strongly positive (+++) reaction—a wheal 2 cm. in diameter with pseudopodia accompanied by itching at the site of the injection but without constitutional symptoms either then or during the night.

Since mattresses constituted the main bulk of the material in the outhouse, and since the patient had shown no skin reaction to extracts of tent canvas or hessian, it was concluded that fungus spores derived from the mattresses were probably responsible. A sample of the contents of the patient's own mattress was cultured and species of Mucor, Penicillium and Fusarium were recovered. A combined extract of these fungi produced a strongly positive (+++) reaction by intracutaneous skin test.

Further tests made on the patient with stock fungus extracts gave the following results:

Alternaria sp.	+++	Helminthosporium	+++
Aspergillus sp.	+++	Monilia sp.	+++
Chaetomium	+++	Mucor sp.	+++
Cladosporium	+++	Rhizopus	+++
Cephalothecium	+++	Hormodendron	+
Cephalosporium	+++	Penicillium sp.	–
Fusarium	+++	Smut of cereals	–

Similar tests carried out on a healthy person as a control proved negative.

It will be observed that the patient was highly skin-sensitive to a large variety of the commoner fungi associated with inhalant allergic conditions including mucor and fusarium which had been recovered from his mattress. It is interesting to note, however, that he was skin insensitive to Penicillium, a very common airborne fungus.

The patient's fungus sensitivity was confirmed by actual clinical trial. He was advised not to sleep on his mattress at the next camp nor assist scholars in unpacking and packing the tents and equipment. He later reported as follows:

> 'Shortly after receiving this advice I took another camp to the coast, slept on my usual mattress in the tent during the first night, and immediately developed an attack of asthma. The following night I slept elsewhere, the attack cleared and I had no further trouble. During a later camp we had a great deal of rain, which forced me again into the tent. I was only able to see the night through with the aid of ephedrine tablets. When the weather improved and I was again able to sleep out the asthma cleared.'

The patient has had no further trouble in subsequent camps after taking the precaution of not sleeping on his mattress.

In brief, clinical trial confirmed the fact that the patient's asthma occurred only when sleeping on his mattress at camp. As Mucor and Fusarium had been recovered from the mattress and were allergenically potent to the patient it was concluded that these fungi were directly responsible for the patient's bronchial asthma at camp.

The need for desensitization in this case did not arise as the patient could easily avoid the cause of his condition.

SUMMARY

1. Comment is made on the importance of fungus allergy with particular reference to the occurrence of fungi in mattresses.

2. A case is described of a man who got asthma only during camping holidays at the seaside both in summer and winter.

3. The asthma was due to the inhalation of fungus elements present in his camp mattress.

4. Skin tests made with a combined extract of Mucor, Penicillium and Fusarium recovered by culture from his mattress provided a positive reaction.

5. Skin tests done with some of the commoner atmospheric fungi revealed the patient's sensitivity to nearly all of them including Mucor and Fusarium, but he was not sensitive to Penicillium.

6. The patient later avoided asthma by not sleeping on his mattress.

REFERENCES

1. van Leeuwen, W. S. (1924): Proc. Roy. Soc. Med., **17,** 19.
2. Cohen, M. B. (1929): J. Lab. Clin. Med., **14,** 837.
3. Brown, G. T. (1932): Ann. Int. Med., **6,** 655.
4. Waldbott, G. L., Blair, K. E. and Ackley, A. B. (1941): J. Lab. Clin. Med., **26,** 1593.
5. Vaughan, W. T. (1948): *Practice of Allergy*, 2nd edition. London: Henry Kimpton.
6. Feinberg, S. M. (1946): *Allergy in Practice*. Chicago: Yearbook Publishers.

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VAN DIE REDAKSIE

HEDENDAAGSE ALGEMENE PRAKTYK

Besorgdheid oor die toestande en status van algemene praktyk in hierdie land het ernstige afmetinge aangeneem. Bewys daarvan is die talryke besprekings deur geneeshere self dwarsdeur die land en die baie duidelike formulering van die probleem op die vergadering van ons Federale Raad in Maart 1950.

Beide spesialiteite en geneeshere moet geluk gewens word met die feit dat hulle hul toegelê het op 'n ontleding van die fundamentele kwessies en oplossings daarvoor aan die hand gedoen het, soos twee verhandelinge wat elders in hierdie uitgawe van die *Tydskrif* gepubliseer word, duidelik aantoon.

Die ongemerkte agteruitgang van die geneesheer se status is nie iets wat aan Suid-Afrika eie is nie. Dit is van wêreldomvang. Toenemende inbreuk op die gebied van individuele onderneming in geneeskundige praktyk en die totstandkoming van die moderne Welsynstaat het sake vinnig tot 'n punt laat kom.

Fundamenteel is die probleem sosiologies. Basiese etiese waardes in ons maatskappy is daarby betrokke omdat die Hippokratiese verhouding tussen die pasiënt en sy geneesheer iets uitsonderliks is. Dit moet nie in gevaar gestel word deur die politieke gevolge van toenemende openbare beheer van die hospitaal- en mediese dienste nie.

Die bedreiging van die lewens- en praktykstandaarde is inderdaad baie ernstig; maar dit is nie slegs die mediese beroep wat daarby betrokke is nie. Die hele gemeenskap wat daardeur bedien word, word ook geraak. Om hierdie redes behoort die fundamentele kwessies wat deur ons bydraers elders in hierdie *Tydskrif* geopper word, die belangrikste plek in ons onmiddellik toekomstige besprekings in te neem.

Selfs indien algemene praktyk reeds agteruit gegaan het, kan intelligente voorbehoedmaatreëls die verval daarvan verhoed en veel doen om die vorige toestand daarvan te herstel.

MOEDERSMELK EN *POLIOMYELITIS*

Op 'n onlangse vergadering van die *Society of American Bacteriologists* het die Direkteur van die *Children's Hospital Research Foundation* van Cincinnati, Verenigde State van Amerika, die ontdekking aangemeld dat die verlammende uitwerking van 'n proefondervindelike besmetting van muise met *poliomyelitis* deur moedersmelk teengewerk is. Daar is gevind dat die melk van sommige koeie in 'n mindere mate soortgelyke beskermende eienskappe besit.

EDITORIAL

GENERAL PRACTICE IN OUR TIMES

Concern about the conditions and status of general practice in this country has become acute. This is reflected by numerous discussions throughout the country by practitioners themselves and by the very articulate formulation of the problem at the meeting of our Federal Council in March 1950.

It is a matter for congratulation that both specialists and general practitioners have addressed themselves to an analysis of the issues and have suggested solutions, as two papers published elsewhere in this issue of the *Journal* clearly demonstrate.

The insidiously changing status of the general practitioner is not something peculiar to South Africa. It is global in extent. Increasing encroachment on the territory of individual enterprise in medical practice and the emergence of the modern Welfare State have brought matters to a head very rapidly.

Fundamentally the problem is a sociological one. It involves basic ethical values in our Society because the Hippocratic relationship between a patient and his doctor is something unique. It must not be embarrassed by the political consequences of increasing public control of hospital and medical services.

The threat to standards of living and practice is very great indeed; but it is not only the medical profession that is involved. The whole of the community which it serves is also affected. For these reasons the issues raised by our contributors elsewhere in this *Journal* should occupy the chief place in our discussions in the immediate future.

Even if general practice has already declined, intelligent anticipation can prevent its fall, and do much to restore its condition.

HUMAN MILK AND POLIOMYELITIS

At a recent meeting of the Society of American Bacteriologists, the Director of the Children's Hospital Research Foundation of Cincinnati, United States of America, reported the discovery that milk from human mothers counteracted the paralyzing effect of an experimentally induced poliomyelitic infection in mice. To a lesser extent the milk of some cows was found to have similar protecting properties.

Hierdie navorsingsprogram is onderneem as gevolg van leidrade wat verkry is van 'n ondersoek van 'n ernstige *poliomyelitis*-epidemie by 'n groep Eskimo's in Kanada. In hierdie uitbraak het 20% van alle ander ouderdomsgroepe in die Eskimo-gemeenskap aan verskillende grade van verlamming gely maar dit het gelyk of borsgevoede kinders onder drie jaar feitlik immuun was teen die verlammende gevolge van die aanval van *poliomyelitis*.

Laboratoriumtoetse het gou 'n faktor teen verlamming in moedersmelk aan die lig gebring. Die feit dat muise wat aan baie groot dosisse menslike *poliomyelitis* blootgestel is deur die melkfaktor beskerm is, dui op die behoefte aan dringende ondersoek van hierdie belangwekkende verslag.

Verdere toetse van die melkfaktor word reeds met ape gedoen en aangesien die beskermingsmeganisme met lang borsvoeding in verband staan, sal dit sekerlik van groot belang wees om te weet wat die voorkomssyfer van *poliomyelitis* onder naturelle gemeenskappe is waar moeders hulle kinders twee jaar en langer soog.

This research programme was undertaken as a result of suggestive clues obtained from a study of a severe poliomyelitis epidemic in a group of Eskimos in Canada. In this outbreak, 20% of all other age groups in the Eskimo colony suffered various degrees of paralysis, but breast-fed children under three years of age seemed almost immune to the paralytic sequelae of an attack of poliomyelitis.

Laboratory tests soon disclosed an anti-paralytic factor in the milk of mothers. The fact that mice exposed to massive doses of human poliomyelitis were protected by the milk factor indicates the need for urgent investigation of this interesting report.

Further tests of the milk factor are already being made on monkeys and as the protecting mechanism appears to be associated with prolonged breast feeding, it would certainly be of great interest to know the incidence of poliomyelitis in African communities in which mothers breast-feed their children for two years and longer.

THE DECLINING STATUS OF THE GENERAL PRACTITIONER

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At a meeting of the Federal Council of the Medical Association of South Africa on 17 March 1950 a debate was initiated on the above subject under notice of motion in the names of Prof. J. F. Brock and Dr. J. H. Struthers in the following terms:

'That Federal Council, being seriously concerned about the growing dissatisfaction among general practitioners with the conditions of general practice, proceed to debate fully what steps can be taken by Federal Council to initiate an improvement in the conditions referred to.'

It was decided that no resolutions would be passed, but that an account of the debate should be prepared by the mover of the motion; the account to be published in the *Journal* and referred to Branches for comment before the next meeting of Federal Council.

The debate reached a high level, but, as would be expected, did not cover all aspects of the problem. I propose, therefore, to review the problem comprehensively from my individual point of view and to bring in wherever possible the main points made by other speakers in the debate.

It was unanimously agreed that the declining status of the general practitioner constituted a very serious problem. In my own opinion it is one of the most serious and difficult problems before the medical profession. In South Africa, especially, we are building up an unwieldy structure of specialist practice which is eroding its own foundation. There can be no healthy system of medical practice which is not based on an efficient and happy corps of general practitioners who know the patients in their domestic environment and can see them as individuals in relation both to past and future health. This corps of general practitioners must remain the foundation of our system of medical practice.

No one would be so foolish in the year 1950 as to deny the need for specialization in medical practice; but this superstructure must not be allowed to erode its base.

The most striking symptom of the unhealthy state of general practice to-day is apparent to those who, like myself, are concerned daily with medical students and recent medical graduates. With few exceptions, senior medical students and interns of the University of Cape Town express the wish to become specialists. Those who state their intention of going into general practice usually give as their reason either that they cannot afford to do post-graduate study or that they are afraid they will be unable to pass the examinations for post-graduate diplomas or degrees. Very seldom does one find that a senior medical student or intern expresses the intention to go into general practice because it is the branch of medical practice which he regards as most interesting or worthwhile. It is worth recording at this point that in a recent enquiry into the interests and objectives of *first year* medical students at the same University, the feeling was voiced by large numbers that general practice is the most interesting and worthwhile branch of medical practice. The reason for this change in outlook during the six years of medical study will be referred to again in this paper.

A senior general practitioner stated in the debate his determination to see that his son becomes a specialist. This is a representative opinion. Another general

practitioner expressed the opinion—with general assent by acclamation—that in spite of the fact that modern antibiotic, chemo- and other therapeutic weapons had rendered the general practitioner of to-day a much more effective doctor in cases of organic disease than was the average specialist of a decade ago, nevertheless the status of the general practitioner is being steadily degraded and the process of degradation accelerated each year.

In the debate there was a tendency, in discussion of the reasons for this unhappy state of affairs, to concentrate on the steady encroachment of specialists into the field of the general practitioner, and to attribute this encroachment to the establishment by the South African Medical and Dental Council of a Specialist Register.

It was rightly pointed out in reply that the declining status of general practice was evident in many countries where no specialist register exists. It is clear that the specialist register cannot be the main cause of the trouble, although in my opinion it can be argued with considerable force that the institution of a specialist register has accelerated in South Africa a process which is apparent in many countries.

In Britain, under the new National Health Service, there is at present great dissatisfaction with the lot of a general practitioner. Criticism is voiced on two main points:

1. Inadequate remuneration and failure to implement the terms of the Spens Report.
2. An increasing tendency to separate the general practitioner from the hospitals.

The first of these appears to be a direct result of the institution of the National Health Service. The second appears to be merely an acceleration of the process which was already apparent. Before the institution of the new Service general practitioners were on the staffs only of those hospitals separated from the bigger centres and the medical schools.

New Zealand is often singled out in recent discussions as a paradise for the general practitioner. It appears to me, however, that the sole basis for the 'paradise' view is the very high remuneration which general practitioners obtain, and this has been obtained only through a burden on the taxpayer, which seems quite unjustified and which New Zealand is not likely to tolerate indefinitely. Apart from high remuneration, the New Zealand general practitioner does not seem to have any advantages over his colleagues elsewhere.

In the United States of America where there is no organized national service, where overall medical remuneration is very high, and where there is no register of specialists, the process of degradation of the status of the general practitioner appears to have gone further and faster than anywhere else. It is clear, therefore, that such commonly invoked reasons as the institution of National Health Services and the institution of specialist registers can hardly be maintained as the basic causes of the declining status of the general practitioner.

I propose, therefore, to examine systematically the other causes which may be operative in many countries. These may be divided, in my opinion, into two main headings:

1. Method of education of medical students.
2. The organization of medical practice, whether that organization be imposed by a national health service or evolved in a system of competitive private practice.

The first of these headings may not appear at first sight to have a very great bearing upon the conditions in South Africa, but in my opinion it covers the deepest and most fundamental causes of the declining status of the general practitioner. I have set forth my views on this subject in two papers,[1, 2] and I will only summarize very briefly the arguments developed in them.

Medical education is at present directed far too much towards the diagnosis and treatment of organic disease, and not nearly enough concerned with prevention and with health promotion. One of the reasons for this is that under a system of competitive private practice, medical students are concerned chiefly with preparing themselves for those functions for which people will pay them fees. As a general rule, the public look to doctors for the diagnosis and cure of organic disease and are not at present prepared to pay fees for disease prevention and health promotion. This reason is, however, comparatively superficial. If doctors showed themselves to be proficient in the prevention of disease and the promotion of health, people would be only too willing to pay fees for these services. They are not at present prepared to pay fees, because they feel they do not get their money's worth from doctors in the field of prevention and health promotion.

The second and far more fundamental reason is that the education of medical students is at present principally in the hands of those who are highly specialized in the diagnosis and treatment of organic disease. This is a more fundamental reason and one which is much more difficult to correct. One frequently hears the suggestion that general practitioners should play a recognized part in the education of medical students. It is quite freely acknowledged that this is a highly desirable objective, but when it comes to the point it becomes a very difficult solution to apply. What, in my opinion, is even more necessary is that those who are responsible for the major part of medical education in the clinical years should be thoroughly imbued with the preventive and health promotive ideal and should carry their clinical teaching into the out-patient department and even to outlying clinics and to the investigation of the patient in his home. This is often referred to as teaching in social medicine, but it is only an extension of clinical teaching into a field which has been neglected.

It is my firm conviction that until existing trends in medical education have been redirected towards this preventive idea, no amount of reorganization of the medical profession is going to stem the declining status of the general practitioner. As long as the future general practitioner is trained solely in the wards of a hospital in the crossword puzzle subtleties of differential diagnosis in advanced organic disease, he is going to continue to regard this as the interesting and important part of medical practice. In this field he cannot compete with specialists and will increasingly be regarded

as an inferior kind of doctor. Only when he comes to recognize that the real function of a general practitioner is to see the patient against the background of his home and environment, and from this expert knowledge make himself a specialist in the early detection of departures from health and the promotion of healthy living, can he establish himself as more expert than any so-called specialist in that field of doctoring which the public most needs and most really wants.

Organization of Medical Practice. Under this heading the disabilities of the general practitioner can be subdivided into: (a) conditions of life and (b) conditions of work.

Undoubtedly the conditions of life of the average general practitioner are exacting and often almost intolerable, both for himself and for his wife and family. Remuneration is not the most important of his conditions of life, because many general practitioners earn more than the majority of specialists, at least in the younger group. The general practitioners with the highest incomes are on the whole the most dissatisfied in South Africa. The more successful they are, the more intolerable does their life become, and they find themselves unable to enjoy any real advantage from their large incomes. Long hours of work, both by day and by night, lack of recreation, relaxation and holidays, and inability to refresh themselves with study leave, constitute the real disabilities in the life of the general practitioner. Added to this is the fact that if he uses his home as a consuling room, all privacy and a great deal of freedom are denied to his wife and children.

Many of these disabilities are very successfully met by multiple partnership arrangements, which sometimes work extremely well, especially if each member of the partnership has some special interest in which he makes himself expert without being a specialist. If the partnership has a central consulting block away from the homes of its members, with proper secretarial and some technical assistance, then general practice may offer very attractive conditions of life, including regular vacation and study leave. Unfortunately, doctors are individualists, and partnership arrangements are frequently a disillusionment. One may blame the general practitioner for this, but it seems to be so deeply rooted that to look for a solution to the problems of the general practitioner in an increase of multiple partnerships seems to be over-optimistic.

The principal fault in the conditions of work of the general practitioner to-day lies in his dwindling contact with the family as a unit. The old-fashioned general practitioner took a great pride in the fact that he knew his family from the cradle to the grave, and was looked to by the family as counsellor, adviser and friend, as well as doctor. The satisfaction which came from this type of relationship with his patients compensated for many of the disabilities under which even the old-fashioned general practitioner suffered. The deterioration of that relationship has merely unmasked his disabilities by destroying his sense of satisfaction in his work.

Why has the old-fashoned doctor-patient relationship disappeared? Urbanization and industrialization have played some part in its disappearance, but not a decisive part. The decisive part has been played by the rapid expansion of medical diagnostic and therapeutic knowledge which have placed a premium upon the specialist. This trend is inevitable and must be accepted, but it is not necessary that it should destroy the real old-fashioned doctor-patient relationship. The part of medical practice to which it applies is only a small part. Only the minority of a general practitioner's patients suffer from those varieties of organic disease which require highly specialized knowledge and equipment for their diagnosis and treatment.

The function of the general practitioner in regard to this minority of disease is to detect its earliest beginnings and refer the patient as soon as he is satisfied that it has begun or is beginning, to a hospital, clinic or specialist. It is the function of the hospital, clinic or specialist to make an expert diagnosis and to begin treatment. In the great majority of cases, treatment can be continued as well, if not better, by the general practitioner. Here comes the rub. So many young doctors have run away from general practice and become specialists that in the bigger centres they are constantly in danger of failing to make a livelihood. They are tempted, therefore, to hang on to the patient as long as possible and to complete his treatment. It is easy for them to rationalize the belief that they can complete the treatment better than the general practitioner. In the case of the hospital or clinic, the reason for hanging on to the patient is usually not a financial reason. It is rather lack of contact with and confidence in the ability of the general practitioner to continue the treatment. The lack of contact is often due to absence of secretarial help, which makes letter writing difficult, but it is often due also to the fact that the specialist in the hospital and the general practitioner in his practice are both so busy that they do not have time to meet on ordinary terms.

These difficulties can easily be overcome by improved organization. I frequently have to ask my house physicians why a patient discharged from hospital has been referred for follow-up treatment to the out-patient department instead of being referred to the general practitioner. There very seldom seems to be a good reason. Such reference back prevents over-crowding in out-patient departments, establishes the patient's confidence in his general practitioner and is comparatively easy with even a modicum of secretarial assistance. The problem of the specialist in private practice who does not refer his patient back to the general practitioner is a much more difficult one. Superficially it is economic, but fundamentally it arises from the uncorrected decline in the status of the general practitioner with resultant over-crowding in the specialist ranks.

The Medical Association can assist in this matter by defining clearly some of its ethical standards. As a general rule, South African specialists do not go into the patient's home except in consultation with a general practitioner, but even this healthy rule is suffering from neglect and needs to be re-stated with emphasis as an ethical principle of our Association. The problem of the patient who goes directly to the rooms of a specialist without referring to his family doctor, is a much more

difficult one. In many specialities it is reasonable and economic. In others it is unreasonable and uneconomic. The patient who goes to the consulting room of an ophthalmologist for his presbyopia without referring to his family doctor, is taking a not unreasonable course and is not wasting his money as a general rule. On the other hand, the patient who goes either to a physician-specialist or to a general surgeon specialist without referring to his family doctor, often gets less satisfactory results and pays more for those results than the patient who goes on reference from his family doctor. Our Association could help in this matter by making it clear to its members and to the public that it is often best for the patient to go through his general practitioner to the specialist, and usually best for the patient if long-term treatment is carried out by the general practitioner in consultation with the specialist. A great deal can be done through this form of medical and public education, but if the number of specialists continues to increase, economic necessity will force them to hang on to their patients, against their better ethical judgment.

In summary it is my opinion that although specialism has rightly come to stay, it is at present growing too fast and creating a top-heavy structure of medical practice. Some of the difficulties between specialist and general practitioner can be eased at once by a clear re-statement of ethical principles by the Medical Association. The causes are, however, so deeply rooted that a final solution can only be achieved by a long-term programme. In this programme a reorientation of medical education towards the preventive and health promotive ideal is fundamental. When this has been achieved, many of the young doctors who at present swell the over-crowded ranks of the specialist will find that in general practice they have a much more satisfying and dignified role to play.

REFERENCES

1. Brock, J. F. (1941): S. Af. Med. J., **11**, 207.
2. Brock, J. F. (1948): S. Af. Med. J., **13**, 440.

THE FUTURE OF GENERAL PRACTICE*

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From time to time writers in the medical press have called attention to the changing nature of general practice, but only since the introduction of the National Health Service in Great Britain (with its relatively unfair treatment of the general practitioner) has widespread interest been aroused in the present status and future of general practice. Recently the subject has been much discussed in England and the United States.[1-4]

My intention is to indicate briefly in what respects general practice is changing, to point out that the present position is unsatisfactory and to suggest certain possible solutions of the problem.

The character and pattern of general practice have undergone very great changes in the last half-century. Out of the old horse-and-buggy family doctor has evolved the modern practitioner. In this change a number of trends can be recognized:—

1. *Restriction of the Scope and Sphere of Activity of the General Practitioner.* The development and growth of scientific medicine have done much to limit the scope and range of activity of the general practitioner. Elaborate diagnostic and therapeutic techniques requiring special knowledge and apparatus have assumed an indispensable role in the elucidation of many medical problems. The inevitable result has been an increasing tendency towards specialization and the necessity of collaboration and team work among specialists.

The general practitioner of to-day, armed with valuable new drugs, is in some respects able to do much more for his patients than was possible in the past, but he is no longer the independent self-sufficient family doctor of a few generations ago. In fact the whole character of his work has changed. To make the advances of modern medicine available to the public it has been necessary to establish and extend hospital and specialist services. The general practitioner has come to depend on these to an ever increasing extent.

While such changes have been largely beneficial to mankind some of the effects have been undesirable:

(a) The transfer of a patient to hospital for investigation or treatment often means that the general practitioner loses contact with his patient. This is particularly true of large centres where hospitals are staffed by specialists and the general practitioner's presence is not encouraged. In visiting his patients in the hospital he is bound to feel very much a poacher and may even be regarded as such. An arrangement of this sort offers the general practitioner no intellectual satisfaction. He is not allowed to initiate the further investigation of his cases, and is seldom informed of the findings. He cannot but find this stultifying and discouraging.

(b) The invasion of the general practitioner's field by the specialist has in certain respects gone too far. This is particularly true of midwifery and pediatrics; the specialist frequently undertakes normal confinements and the care of the normal infant. In doing so he is dislodging the general practitioner from the very cornerstones of his practice and depriving him of his best opportunity of gaining the confidence and esteem of his patients. In fairness to obstetricians and pediatricians however, it should be admitted that some of

* Introduction to a discussion at a meeting of the Drakenstein Division of the Cape Western Branch of the Medical Association on 12 May 1950.

this work is forced on them by an excessively specialist-conscious public. Besides the burden of extra expense, the public cannot fail to suffer in the long run from such a weakening of the ties between family doctor and patient.

(c) With an ever-increasing dependence on hospital and specialist services the patient has to be content with a form of medical care which, while perhaps technically perfect, lacks much of the understanding and consideration a good general practitioner automatically gives his patients. It seems to some extent innevitable that the treatment of patients in large hospitals is liable to be impersonal, and the patient may be made to feel that those caring for him are interested only in his disease. Often the patient passes from doctor to doctor in the course of investigation without there being any one doctor personally in charge of him. In consequence he often becomes diffident and afraid.

2. *The Greater Load of Patients.* The modern general practitioner cares for a far greater number of patients than did his predecessor of fifty years ago. This is due especially to the growth of cities and industrial areas with concentration of large population groups. Increase of transport facilities has also played its part. The modern practitioner either travels much less or travels more quickly. He is therefore able to see far more patients although he does not necessarily work longer hours than his predecessors did. Many practitioners are to-day carrying too great a load of patients to the detriment of their standard of practice.

3. *Loss of Status and Esteem.* Probably the most disquieting trend of all is the loss by the general practitioner of the status and esteem he formerly enjoyed both within and without the medical profession. There can be no doubt that this change is a progressive one and is doing much to discourage the better students of medicine from entering general practice.

There are several reasons for this:—

(a) *The Development of Specialization and Super-specialization.* Especially in the United States is this apparent, not only in medicine but in many other professions and trades. There is no doubt that the public are showing an ever-diminishing confidence in the general practitioner and there is a growing tendency for people to believe that only specialists can give reliable opinions.

It is common practice to-day for specialists to be consulted directly even for trifling disorders; one finds the ear, nose and throat surgeon syringing ears for the removal of wax, and the orthopaedic surgeon attending to minor sprains.

The patient often consults the specialist without informing the general practitioner who is treating the case that he is going to do so. The specialist may then unknowingly or perhaps tactlessly bring discredit on the general practitioner with whose management of the case he disagrees.

These tendencies bring the specialist into direct competition with the general practitioner whereas he should, by virtue of his specialized knowledge, be reserved for the more difficult cases.

(b) *The General Practitioner's Inadequate Knowledge.* The busy general practitioner finds too little time for reading and the attendance of clinical meetings to keep himself informed. Apart from this there is no doubt that the training of general practitioners is inadequate and has not kept pace with the developments and requirements of modern medicine. The young practitioner therefore finds himself ill-prepared for the multifarious tasks that await him, and has to rely heavily on the specialist for assistance.

Few will deny that the medical undergraduate receives a training which is more academic than vocational. The teaching hospitals tend to accumulate the rare, little-understood diseases and are staffed by specialists who have no personal experience of general practice and its problems. Much of what is taught is therefore more of academic interest than practical value to the prospective general practitioner. Too little time is devoted to pediatrics and the common disorders of adults, including psychological illnesses.

Until recently most general practitioners began practice with no post-graduate hospital experience. Even since the introduction of a year's compulsory internship many graduates receive inadequate or one-sided practical training.

(c) *Devaluation from Within.* Some of the loss of prestige by the general practitioner undoubtedly comes from within the profession itself. Specialists on the staffs of teaching hospitals tend tacitly to assume that the keen men will become specialists and the remainder go into general practice. Their teaching often reflects this attitude with the result that their housemen tend to regard general practice as a step down rather than parallel to that of continued study in one particular branch of medicine. Those who eventually find their way into general practice frequently offer financial stress as an apology for failing to specialize.

(d) *Exclusion from Hospital Staffs.* In large centres the general practitioner is very largely excluded from the staffs of hospitals, specialists gaining preference. When the practitioner refers a case to hospital he consequently loses touch with the case. In extreme instances, and they are becoming increasingly frequent, the general practitioner degenerates into something little better than a clerk at a casualty clearing-station.

(e) *Withdrawal from Midwifery and the Care of Major Illness.* Most practitioners agree that midwifery and the care of major illness afford the doctor the best possible opportunities of gaining the confidence of his patients. Many women are eternally grateful simply because their doctors were kind to them during the normal birth of their children. If practitioners cease to undertake midwifery, and all major illness passes out of their hands they cannot but lose status and esteem with the public. There is abundant evidence that this tendency is increasing.

(f) *Inadequate Representation on Medical Governing Bodies.* General practitioners have hitherto neglected to be sufficiently mindful of their own interests and have not been adequately represented on bodies that lay down rules with regard to medical education, medical practice and fees. The general practitioner's isolation and lack of leisure have been blamed for this.

(g) *Inadequate Remuneration in Comparison with that of Specialists.* Under the National Health Service

in Britain the relatively better remuneration of specialists has done much to discourage young doctors from entering general practice. The treatment of the general practitioner under the N.H.S. leaves no doubt as to the status accorded him by the responsible authorities.

4. *The Development of Group-Practice.* An appreciation of their limitations, loss of self-sufficiency and bad working conditions has led many practitioners to form small groups of two or more practitioners operating from a common headquarters. Formed partly in self-defence, such group-practice units have provided their members with many advantages, some of which will be mentioned later.

The Collings Report. Dr. J. S. Collings, an Australian who has studied medical practice in his own country, New Zealand, Canada and the U.S.A. has recently published a report on his findings with regard to general practice in Britain.[2] It has become known as the Collings report and has aroused a great deal of comment and discussion.[3, 4] He recognizes three types of general practice in Britain:—

(a) *Industrial Practice.* This is the worst type, carried on in the thickly populated industrial areas of large cities. Collings found that he could divide practitioners in these areas into 'missionaries and mercenaries'. Their patient load was so terrific that there was no time for 'family doctoring'. Spot diagnosis was the main procedure and patients were either sent to hospital or otherwise hurriedly disposed of. There was no time for a proper discussion with a patient of his problems.

One of the most disquieting results of this type of practice was the levelling effect it had on the standards of practice. Previously good men inevitably soon became bad doctors as a result of the system in which they worked.

(b) *Rural Practice.* Here Collings found the best examples of general practice. The rural practitioner was often a combination of 'family doctor' and modern scientist. Because of his smaller patient-load the rural practitioner could give his patients individual attention, and had more time and better facilities for applying modern diagnostic and therapeutic measures. Some practitioners, however, undertook too much, especially in the realm of major surgery.

(c) *Urban-Residential Practice.* This type of practice was carried on in the residential suburbs of cities and large towns and was an unhappy compromise between the first two varieties.

In South Africa one can distinguish three rather different types of practice: Rural (on the platteland), semi-urban (in the larger towns near large centres, e.g. the towns of the Drakenstein area equipped with small hospitals), and urban (in the cities).

As a result of his observations Collings[2] concluded that 'the overall status of general practice is bad and still deteriorating'.

The tendency, according to him, is always to compensate for deficiencies in general practice by extending the activities of specialists and hospitals. 'This trend has been going on for a long time, but if it continues it is bound to result in over-compensation, unnecessary expense, further dehumanizing of medical care, and ultimately in the elimination of the general practitioner as a responsible person. . . . Quite apart from human values it is doubtful whether the policy of concentrating on hospital and specialist care is economically justifiable or even possible, and its hazards will certainly not be lessened by drifting into it'.

The Necessity for a Good General Practitioner Service. While there are some who see no future for the general practitioner except as an appendage to the hospital service, there are others who would like to see him rehabilitated as a highly responsible doctor. Most seem agreed that an efficient general practitioner service is indispensable to the community and the Spens Committee, quoted by Leeson,[8] stated that 'it would be disastrous to the profession and to the public in general if general practitioners were recruited only from the less able young doctors'.

Leeson[8] regards general practitioners as 'the shock troops of medicine, on whose skill, decision and courage the whole service will stand or fall', and Herford[9] maintains that 'the prestige of the profession will depend ultimately on the general practitioner and not on the specialist. To debase him is to debase the medical profession'.

Even with an ever-increasing development of hospital services the responsibility for the early detection of illness will rest largely with the general practitioner, and without good general practitioners many people will die through lack of adequate treatment in proximity to well-equipped hospitals.

Apart from his technical knowledge the general practitioner is of great value to the community by virtue of his realization that a patient is not merely a case, but a person and a member of a family.

Suggestions for the Rehabilitation of General Practice. Particularly since the introduction of the National Health Service in Britain many general practitioners have become pessimistic and demoralized. They see no future for general practice and are discouraging their sons from entering the profession. However, while we may regard the present position as largely inevitable and a product of the time in which we live, there are many who believe that much can be done to rehabilitate general practice.

Collings[2] has recommended that we should cease to compensate for the weaknesses of general practice by extending specialist and hospital services. Instead a determined effort should be made to improve the standards of general practice. In this respect much can be done.

1. *Better Training of Prospective General Practitioners.* This should include both undergraduate and post-graduate training.

(a) Undergraduate training could profitably be guided by the realization that its primary function is the education of future general practitioners. It should be practical as well as academic and the less serious illnesses should not be overlooked. A thorough knowledge of infant feeding and the common disorders of infancy and childhood should be regarded as an indispensable part of the doctor's armamentarium.

It has been suggested by the British Medical Association that general practitioners should have a share in medical education. The Lancet,[1] elaborating a suggestion of one of its readers,[10] discusses how the establishment of chairs of general practice in medical schools could contribute to the better training of general practitioners. A professor of general practice with his headquarters in a university health centre could supervise the instruction of students in the techniques of general practice. He could watch over the interests of general practitioners and 'from his point of vantage in the university . . . exert an influence hitherto denied to the general practitioner'. He could furthermore 'help to bring a new dignity to general practice'.

Specialists who participate in undergraduate training would be better qualified for their task if they first served a few years in general practice. They would then have firsthand knowledge of the practical difficulties that confront the general practitioner. This would influence their teaching and lead to better harmony and understanding between general practitioner and specialist.

(b) Post-graduate training of general practitioners also merits urgent consideration. This could be divided into a preliminary period of internship to provide graduates with hospital experience, and a subsequent period of apprenticeship to experienced general practitioners. It may be mentioned here that the Medical Practices Committee for England and Wales recommended that 'preliminary apprenticeship as an assistant is still the best method of entering general practice'.

As regards hospital experience, this should be arranged to meet the needs of the prospective general practitioners. It is of interest to note that the Faulkner hospital in Boston offers an internship of two years specifically for the benefit of intending general practitioners.[6] The emphasis is on internal medicine (one year), and the remaining year is divided between pediatrics, obstetrics and surgery. The period of compulsory internship in South Africa meets only partly the need for such experience, as many graduates get a one-sided training in one of the smaller specialities in the large hospitals, and those in the rural hospitals get practically no training at all.

2. *Refresher Courses for General Practitioners.* These are much needed, but owing to practical difficulties and the pressure of competition few practitioners would probably at present be able to take advantage of them if they were instituted.

3. General practitioners should as far as possible be given *access to hospitals* that serve the communities in which they practise. Only by so doing can the interest of practitioners be sustained, and it would lead to a better understanding between the general practitioners and the specialists who act in an advisory capacity at such hospitals. Furthermore, general practitioners should not be debarred from exercizing special skills for which they have been trained. To stimulate their interest further they should be allowed to initiate such special investigation of their cases as they may deem necessary and they should be encouraged to attend clinical meetings at their community hospitals.

4. *Midwifery and Care of Major Illness.* Especially in cities a great deal of uncomplicated midwifery is passing out of the hands of the general practitioner, and while older practitioners may wish and can afford to let this happen, young practitioners certainly cannot. It forms the foundation of their practice and they must be willing to undertake it.

Equally as important is the case of major illness. The general practitioner is the person who must see the patient through his illness. He must enlist specialist assistance where necessary, but he must keep in touch with his patient where geographically possible. He must secure the patient's co-operation in the investigations and treatment, and he must assume responsibility at a high level throughout.

5. *Development of Group-Practice.* There is no doubt that many of the disadvantages of general practice can be minimized or overcome by adopting group-practice. Among the advantages are:

i. It provides for unimpeded mutual assistance and moral support within the group.

ii. Consultations can be arranged easily and without additional expense to the patient.

iii. It allows members of the group to practise the special skills for which they have been trained by furnishing them with an adequate number of cases.

iv. It becomes possible to arrange off-duties for members of the group thus allowing them much-needed leisure and time for reading and clinical meetings.

v. Telephone and receptionist facilities can be pooled.

vi. Clinical assistance can be pooled, thus further reducing overhead expenses.

vii. It makes the provision of simple laboratory and other aids to diagnosis economically possible.

viii. In the larger groups it becomes possible for the various members to embark on refresher courses or further periods of post-graduate training.

For the efficient and harmonious functioning of such a group it is essential that the members trust one another and endeavour to pull their weight. Granted these and tolerance of one another's peculiarities, group-practice ought to be infinitely preferable to the unrelieved drudgery of individual practice.

6. In any national health service general practitioners should have a *rate of remuneration* comparable to that of most specialists.

7. Competition between general practitioners and specialists should be minimized and specialists should occupy the role of consultants to a greater extent than they do at present.

8. General practitioners should have *better representation* on bodies which determine such matters as medical education, rules of practice and medical fees.

It is interesting to note in conclusion that in the United States general practitioners, alive to the necessity of guarding their interests, have formed an *Academy of General Practice*. This body has branches in almost all the American States and its purposes are stated in its constitution[7] as follows:

(a) To promote and maintain high standards of general practice of medicine and surgery.

(b) To encourage and assist young doctors in

preparing, qualifying and establishing themselves in general practice.

(c) To protect the right of the general practitioner to engage in medical and surgical procedures for which he is qualified by training and experience.

(d) To assist in providing post-graduate study for general practitioners and to encourage and assist physicians and surgeons to participate in this training.

(e) To advance medical science and private and public health.

REFERENCES

1. Ed., Lancet. (1949): **2,** 373.
2. Collings, J. S. (1950): Lancet, **1,** 555.
3. Editorial (1950): Lancet, **1,** 547.
4. Editorial (1950): Brit. Med. J., **1,** 709.
5. Editorial (1948): New Eng. J. Med., **239,** 794.
6. Editorial (1949): New. Eng. J. Med., **241,** 247.
7. Editorial (1949): New Eng. J. Med., **240,** 855.
8. Leeson, H. (1948): Lancet, **1,** 927.
9. Herford, M. E. M. (1949): Lancet, **2,** 536.
10. 'F.F.G.P.' (1949): Lancet, **1,** 372.

NUTRITIONAL OEDEMA

A SURVEY OF CASES AT THE KING EDWARD HOSPITAL, DURBAN

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The ever-increasing incidence of malnutrition and nutritional oedema seen in hospital presents a grave problem in the health of the Bantu. Lack of food, insufficient food due to qualitative and quantitative defects in the diet, improper use of various foods and ignorance in the administration of foods and living produce a state of affairs varying from a simple disturbance to a malignant form of malnutrition.

A survey of some features of cases of nutritional oedema over 18 months at King Edward VIII Hospital is presented. The cases are shown in relation to number of cases admitted and their death rate.

The symptoms in this condition are numerous, e.g. oedema of the face, eyelids, arms, legs, pigmentary changes in the skin, fairly diffuse, dermatitis in various parts especially the genitals, rashes over the body and areas which break down becoming moist and infected, angular stomatitis. Characteristic changes in coloration of hair takes place, it becoming gingery in colour. The skin in some cases also assumes a brownish red tint—the kwashiorkor or red boy as it is called; diarrhoeal states; lack of lustre (conjunctiva), burning of the eyes, lacrimation, photophobia and discharge from the eyes, and intense irritability of the child.

Nutritional deficiency is caused primarily by inadequate intake of food and reduction of protein requirements and amino acids. This lack of protein produces swelling of extremities—face, eyelids, arms, legs, abdomen, scrotum and, together with the marked deficiency of vitamins, pellagrinous manifestations occur as well. Diarrhoea occurs in deficiency states with hypermotility of the stomach. In most of these deficient children enlargement of the liver occurs.

The dietary history in all cases conforms to a uniform pattern—samp, beans, mealie meal, rice, pumpkin, no fresh milk, no meat, eggs or vegetables, or a very occasional helping of these foods, or certain dried foods (in the cases of infants) which are prepared without milk.

Vitamin A deficiency accounts for scaly skin, dryness and the occurrence of small follicles. Ocular disturbances which may be destructive to the sight of the patient are found in several instances.

Riboflavin Deficiency. Anorexia, loss of weight, nervousness, sores at the angles of the mouth and a red tongue are early signs.

Nicotinic Acid Deficiency. Disturbance referable to alimentary tract, lassitude, etc., and skin lesions. Secondary infections with Vincent's and monilia take place.

Vitamin C. Petechial haemorrhages, weakness, anaemia.

In some cases rickety manifestations occur.

These last two manifestations are rare, however, and the malnutrition cases also manifest these signs and symptoms without oedema being present and these are sometimes of a more serious variety than the oedematous ones described. The mortality in these cases is exceedingly high.

In the nutritional series the lack of protein is more evident than the lack of vitamins. Intercurrent infection occurs, especially bronchopneumonia, which becomes a serious issue in many of the cases. Nutritional anaemia is found in these cases and the haemoglobin has been found to fall in starvation and in protein depletion and to rise during recovery. The incidence of the disease appears greater in the summer months.

In the earlier cases under review in which serum proteins were done and fell within normal limits for children, the blood was obtained from the anterior fontanelle, as in the oedematous subjects it is not always easy to obtain blood. In all these cases serum proteins were 4.4, 4.5, 4.7, 6.9, 3.6 gm. %. The changes in serum protein levels are mainly due to the albumin fraction.

The liver in all our cases shows enlargement, varying from being a palpable organ to a large abdominal organ. Gillman and Gillman in Johannesburg have been responsible for a great amount of work in this subject and have been authoritatively quoted. By means of liver biopsies they [1] have established that on admission to hospital the livers of infantile pellagrins show various degrees of fatty change, in severe cases almost

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every liver cell is distended by a single large globule of fat'. 'Liver biopsy,' they state, 'is indispensable in establishing the prognosis and in assessing the effectiveness of any form of therapy.'

Altmann [2] in his admirable review of the syndrome of malignant malnutrition states 'this form of dystrophy develops whenever young children are fed on a cereal formula totally or partially deficient in protein. There can be no doubt whatever Kwashiorkor may be and wherever it is described, and whatever the staple carbohydrate used in a given locality, all diets have the factor in common that they are deficient in animal protein.

Czerny and Kellar [3] admit that a heavy infiltration of the liver with fat may possibly indicate liver damage, but they state, 'up to the present it has not been clear whether a fatty infiltration of the liver, of even a high degree, as found so frequently at autopsies of infants, interfere with the functioning of the organ'. 'We feel that this statement holds as good to-day as in 1925. It is certainly very desirable to perform liver function tests on patients with a fatty liver in order to get a clearer conception of the functional impairment of such livers.'

From the clinical observations of these patients it is obvious that at least some of the functions of the liver are performed satisfactorily, namely excretion of bile, the storage and mobilization of the antianaemic factor and the synthesis of albumin. Jaundice has never been described in these patients.

Suzman [4] and Kark [5] also thought a multiple vitamin B deficiency to be the principal cause, associated with protein deficiency. Hughes [6] considered lack of riboflavin to be the cause of the essential clinical features of the syndrome with lack of protein and other vitamins as associated deficiencies.

The examinations conducted in this group of cases whose ages range from a few months to 3-4 years was as follows:—

1. A complete clinical examination.

2. Urine analysis to exclude the presence of any kidney disease, e.g. nephritis with oedema of face, arms and legs. In some cases fluid is present in the abdomen.

3. The greater percentage of our cases have been subjected to X-ray examinations and skin tests. The results in this series indicate a very high percentage of enlarged hilar glands—few apart from hilar adenopathy have had actual tubercular lesions, but these have definitely occurred as well.

4. Blood counts. The level of the red cells is generally reduced to 3½ million or 3 million. Those below 2 million are grossly ill and require blood transfusion.

5. Examination of teeth has produced very few instances of dental caries and whilst every organ of the body appears depleted, it is rather surprising to find the teeth in a fairly good condition.

6. Stool examinations reveal a degree of invasion of parasites and the round worm is present in the greater majority of these cases.

7. As mentioned before serum proteins were conducted in the first series of cases.

8. In only one case was a marrow puncture done and this proved normal.

In comparison with investigations done by observers in other towns, some differences are evident in this series.

It has been stated that in Johannesburg the mortality in the oedematous cases is not very marked. My experience shows that unless there is a subsidence of the oedema by the 10th or 14th day, the cases do not present a favourable prognosis and the mortality rates in the prolonged oedemas are regrettably high indeed.

TABLE I

Date	Total	Males	Deaths	Females	Deaths	Total Deaths	Corrected Death Rate	Improved
June (1948)	46	22	8	24	14	22	20	15
July	21	16	11	5	5	16	13	4
August	23	16	3	7	6	9	7	9
September	42	25	6	17	8	14	8	21
October	52	28	11	24	9	20	15	24
November	62	31	17	31	17	34	24	23
December	68	32	18	36	20	38	27	24
January (1949)	65	34	17	31	15	32	26	27
February	55	32	13	23	10	23	14	23
March	35	19	10	16	9	19	14	12
April	28	14	4	14	6	10	8	13
May	23	11	1	12	7	8	6	10
June	26	20	9	6	2	11	10	10
July	20	9	3	11	4	7	4	11
August	25	11	4	14	8	12	7	11
September	32	15	7	17	9	16	13	12
October	27	11	5	16	11	16	14	8
November	39	21	11	18	12	23	19	9
December	38	19	13	19	15	28	23	8
Total	727	386	171	341	187	358	272	274

Intercurrent infections generally end this dismal picture (Tables I and II).

TABLE II

Date	*Total Intestinal Parasites*	*Deaths*	*T.B.*	*Deaths*	*Deaths under 48 Hours*
June 1948 ..	8	3	3	3	2
July	3	–	0	–	3
August ..	2	1	0	–	2
September ..	8	–	4	2	6
October ..	5	1	5	2	5
November ..	9	5	1	1	10
December ..	12	2	1	1	11
January (1949)	15	3	4	–	6
February ..	9	2	2	1	9
March ..	2	–	0	–	5
April	6	3	1	–	2
May	3	–	1	1	2
June	5	1	0	–	1
July	4	1	0	–	3
August ..	8	2	0	–	5
September ..	10	2	4	3	3
October ..	4	1	0	–	2
November ..	6	2	0	–	4
December ..	5	2	7	6	5
Total	124	31	33	20	86

Furthermore, the cases in Transvaal do not appear as advanced as ours, perhaps because of the better social conditions (if one can hesitatingly say so) in the Bantu in the larger urban areas; whereas many of our cases are collected from a widespread area and a lower wage earning income group. The bowel parasites too are not as prevalent as in our series, which helps to undermine the general condition as well.

The method of treatment in the earlier days consisted of administration of vitamins, but this soon proved ineffective and indeed harmful.

Gillman and Gillman [7] too stated that vitamin therapy not only failed to save the lives of more than 50% of these children, but in many instances aggravated the disease and even hastened death.

'Regarding liver extract—it was found that at the end of five weeks some fat was still present in the liver —indicating that this form of therapy was inadequate to effect a complete cure, even in combination with a full diet.' Preparations of casein hydrolysate for oral administration became available in 1944 and these proved very valuable in the first series of cases.

Treatment was conducted as follows:—Food was commenced slowly, so that metabolism was not overbalanced.

Predigested protein
Glucose
Vitamin (B complex) } 24 hours.
Food and milk

A liquid or a powdered form of protein was administered with soup and marmite or with glucose-milk. Two drachms were given twice or thrice daily. In cases of breast-fed infants mother continued this feeding. Reduction of the oedema was observed in 10 days—in milder cases lactic acid milk was given. However, many cases did not respond to this treatment, in consequence of which a group was treated on Ventriculin 5 gm. *b.d.* for 4-5 days. Many showed a marked improvement—but failures inevitably occurred.

Gillman and Gillman [3] stated that in their series within 24-48 hours after administration of dried hog's stomach there was a sudden loss of oedema fluid. The oedema of the limbs and genitalia disappeared so rapidly that children frequently lost between 1-3 lb. in weight in the 24-48 hours.

'The cutaneous and oral lesions healed surprisingly quickly and within 3 to 4 days of the first dose of powdered stomach the skin commenced to desquamate and within 7 to 10 days the skin appeared normal. The diarrhoea and steatorrhea ceased within 2 to 3 days. The children rapidly lost their peevishness and irritability, regained their appetites and could be regarded clinically as cured within 10 to 14 days.'

Following on this a trial was given of a combination of hydrolysed protein and Ventriculin—and the same features were observed—in the successful cases recovery commenced at 10-14 days, when all signs of oedema disappeared and in cases where there was a sudden and rapid disappearance of oedema—collapse and death ensued.

Vitamins, particularly B-complex, were administered in the course of treatment by mouth.

The toxic reactions described by Gillman and Gillman [3] through the administrations of protein hydrolysates were not seen.

'Further experimentation led some workers to use methionine—in experiments on animals, the lack of the specific vitamin from the diet caused a fatty liver, the addition of this vitamin frequently failed to alleviate this pathologic process, and in fact under certain conditions intensified the lesion. It was also demonstrated that the fatty liver produced in animals by the lack of a vitamin could be cured by the addition of some substances other than vitamin, namely methionine. However it was found that methionine used over a short period did not remove the fat from the livers of human pellagrins in a manner comparable with that described for Ventriculin.'

Owing to the increasing difficulty of obtaining Ventriculin and to the nauseating effects of hydrolysed protein and accompanying vomiting of meals—a diet was instituted in which maas was given.

An acid milk formula with low fat content like protein milk or buttermilk fulfils the necessary requirements. When the child's appetite has returned most difficulties are over and the demands for food are satisfied.

Our present diet consists of maas, eggs, meat, vegetables, fruit, and is brought up to a normal dietary standard as soon as the child is able to consume this food.

The whole problem is undoubtedly associated with the social and economic conditions under which the Bantu lives together with abysmal ignorance of the necessary factors in food. Associated with poverty, damp homes the tubercle bacillus finds a fruitful source of habitation and widespread proportion of the Bantu population in consequence victims of this condition as well. The problem is too large for other than govern-

mental control, particularly in urban areas where conditions of living among the Bantu peoples has deteriorated owing to congestion and increased cost of living.

All our researches will prove fruitless unless the problem is tackled vigorously and energetically. The preservation of good health must prove less expensive than treatment of disease. Prevention is better than treatment.

My thanks in the collection of the statistics and material collected are due to members of staff of the King Edward VIII Hospital.

REFERENCES

1. Gillman, T. and Gillman, J. (1945): J. Amer. Med. Assoc., **129,** 12.
2. Altmann, A. (1948): Clin. Proc., **7,** 32.
3. Czerny, A. and Killar, A. (1948): *quoted by* Altmann.
4. Suzman, M. M. (1942): Clin. Proc., **1,** 205.
5. Kark, S. L. (1943): S. Af. J. Med. Sci., **8,** 156.
6. Hughes, W. (1946): Brit. Med. J., **2,** 85.
7. Gillman, T. and Gillman, J. (1945): Arch. Int. Med., **76,** 63.

NEW PREPARATIONS AND APPLIANCES

Vegolysin in the Treatment of Peptic Ulceration

The introduction of a ganglionic blocking agent which is capable of administration both parenterally and orally, and which inhibits gastric motility, is of interest in connexion with peptic ulceration.

The hexamethonium compounds have recently been the subject of extensive clinical investigation and the application of one of them, available from the M & B organization as *Vegolysin* brand of Hexamethonium Bromide, to the treatment of peptic ulceration is an advent of great significance because of the high incidence of such conditions.

In the normal subject 100 mg. of Hexamethonium Bromide, injected *intramuscularly*, abolishes the spontaneous secretion of hydrochloric acid, and motility of the stomach is inhibited for three to four hours. Appetite is reduced. The systolic and diastolic blood pressures fall by up to 10-20 mm. Hg. and there is a corresponding increase in the pulse rate. In some subjects there is a paralysis of accommodation resulting in blurring of the near vision.

Oral administration of five times the dose, i.e. 500 mg., will produce the same effects in a majority of patients, but determination of acid depression should be made early in the course of oral treatment so that intramuscular administration may be resorted to if necessary.

Ulcer pain is quickly relieved upon administration of Hexamethonium Bromide, and the probable effects of reduction of acidity and relief of spasm on the healing of gastric and duodenal ulcers are worth careful investigation.

In the hypertensive patient the fall in blood pressure may be marked, and there may be transient nausea and vomiting. This calls for caution in administration in the early stages, and initially small doses only should be given. The fall in blood pressure is associated with posture, the fall being more severe on standing. Severe hypertension is therefore an indication for recumbency while the drug is first being introduced.

Vegolysin brand of Hexamethonium Bromide is presented as follows, and the first two presentations are already available in very limited quantities in this country:

10% solution—for intramuscular injection in boxes of 10 x 1 c.c. ampoules (each ampoule contains 100 mgm.).

Tablets—for oral administration in containers of: 50 x 0.25 gm. and 500 x 0.25 gm.

PASSING EVENTS

Nuffield Dominion Travelling Fellow: Dr. I. B. Welsh

Dr. I. B. Welsh, who has been awarded a Nuffield Dominion Travelling Fellowship for the year 1951, is 30 years of age, and at present holds a Clinical Tutorial Medical Registrarship in the Department of Medicine of the University of the Witwatersrand. In addition to routine teaching and hospital duties, he has carried out research on the anaemias of pregnancy in the Bantu (assisted by a grant from the C.S.I.R.) and has assisted in experimental work on radio-active isotopes. Before his appointment to the Department of Medicine, he was a member of the Haematology Section of the South African Institute for Medical Research.

After leaving school, Dr. Welsh entered the Engineering Faculty of the University of the Witwatersrand in 1937, and attained his B.Sc. (Engineering) in 1940. He then transferred to the Faculty of Medicine and had a distinguished undergraduate career. He was elected a Scholar of the University and gained several prizes during his course. His studies were interrupted in his fifth year by a period of war service in the Artillery from which he returned and qualified M.B., B.Ch. in June 1946. He has subsequently passed the clinical portion of the M.D. examination of the University of the Witwatersrand.

In addition to his academic work, he has taken a prominent part in student and postgraduate activities. He was President of the Students' Representative Council of the University of the Witwatersrand, a member of the Executive of the Students' Medical Council and All Sports Council, and at present is a member of the Executive Committee of Convocation of the University of the Witwatersrand, Secretary to the Medical Graduates Association, and Graduate Editor of *The Leech*.

Dr. Welsh's programme as a Nuffield Travelling Fellow has not yet been settled, but he hopes to continue his studies of haematology at Oxford University, in addition to studying General Medicine at various hospitals and clinics in Great Britain.

Course on Public Health and Preventive Medicine

The Institute of Preventive Medicine, Wassenaarseweg 56, Leiden, Holland, Director Prof. Dr. R. Remmelts, intends to open a one-year full-time course on Public Health and Preventive Medicine.

For those, who will not be able to follow it full-time, an arrangement will be made to follow it half-time during two years.

The course, which will be given in seminars, is especially meant for Inspectors of Public Health, Directors of Medical Services, Hospital Directors, School Physicians, Industrial Physicians, Controlling Physicians.

A special treatment of subjects of interest for these groups will be given.

The following subjects will be taught and practised in the course: Bacteriology, Biostatistics, Epidemiology, Environmental Medicine, Mental Health, Sociology, Eugenics, Public Health (care for different age-groups, special subjects, public health administration, hygienic advice), Sanitary Engineering.

In selecting candidates for the course, physicians with practical experience will be given preference.

Those interested in the proposed course are asked to send their applications to Prof. Dr. R. Remmelts, mentioning:

1. Whether they wish to follow the full-time course covering 26 weeks (one academic year) (seminars Monday to Friday);
2. Whether they wish to follow the half-time course covering two days a week in the span of two years;
3. Their special field of interest.

Baragwanath Medical Society

An open clinical and clinico-pathological meeting of the Baragwanath Medical Society will be held in the Nurses' Training School on Monday, 30 October 1950, at 8 p.m.

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Dr. Wolf Rabkin, head of the Department of Paediatrics at the University of Cape Town, has left by air for Israel at the request of the Israeli Ministry of Health in connexion with the problem of Sick Immigrant Children. Dr. Rabkin will be away for the month of October.

REVIEWS OF BOOKS

PARKINSON'S DISEASE

Parkinson's Disease. By Walter Buchler. (Pp. 79. 5s. 6d.) London: Walter Buchler.

The author is a layman suffering from Parkinson's disease. This little book is an account of how he has adjusted himself to life and indicates how others can do the same. There is nothing medical about it. There is frequent reference to the practical difficulties encountered in the daily routine and the author's method of dealing with them. Some of these difficulties can only be known to an actual sufferer from this malady, though they are not free from the personal factor.

The pamphlet is written in simple style, untinged by dramatics and the subject matter is equally applicable to sufferers from many other chronic conditions.

MATERIA MEDICA

The Essentials of Materia Medica, Pharmacology and Therapeutics. By R. H. Micks, M.D., F.R.C.P.I. (Pp. 438. 21s. 5th ed.) London: J. & A. Churchill Ltd. 1950.

Contents: 1. General Principles. 2. Narcotic Action. 3. Opium and Morphine. Other Potent Analgesics. 4. Volatile Narcotics and General Anaesthesia. 5. Non-Volatile Narcotics. Hypnotics. 6. Convulsants and Analeptics. 7. Salicylates and other Mild Analgesics. 8. The Local Anaesthetics. 9. Drugs used in the Treatment of Heart Failure. Digitalis. Quinidine. The Nitrites. 10. Purgatives. 11. Magnesium. Drugs used in Diseases of the Stomach. 12. Drugs and the Autonomic Nervous System. 13. Drugs concerned in the Treatment of Anaemia. Iron and Liver. 14 Thyroid, Iodine and the Thiouracils. 15. Calcium, Parathyroid and Vitamin D. 16. Vitamins. 17. Water Balance and Electrolytes. Adrenal Cortex. 18. Insulin and Diabetes. 19. Gonadotrophic and Sex Hormones. 20. The Sulphonamides. 21. Antibiotics. Penicillin. Streptomycin. Chloromycetin. Aureomycin. 22. Arsenic. Bismuth. Antimony. The Treatment of Syphilis. 23. Mercury. The Mercurial Diuretics. 24. Dimercaptopropanol and Poisoning by Metals. 25. Antimalarial Drugs. 26. Anthelmintics. Amoebic Dysentery. 27. Cytotoxic Drugs. 28. Prescribing. Index.

This book has rapidly passed through several editions and this latest one will prove as popular as its predecessors. Clinicians will find here a most readable, practical account of the drugs currently accepted of therapeutic value. The very latest of remedies are included. Pharmacological detail is only provided to explain the basis of the therapeutic action of the drugs. The principles of drug therapy and the administration of drugs are especially emphasized.

Among the more important new remedies described are the analgesics Amidone (Methadone) and Phenadoxone (Heptalgin), Antabuse, Mesantoin, Noradrenaline and Isoprenaline (isopropylnoradrenaline, neoepinine), T.E.A.B., diisopropylfluorophosphonate (DFP), dihydroergotamine, antihistaminic agents, vitamin B_{12}, Dextran, Dimercaptopropanol (BAL), intravenous iron, and the new antibiotics Chloramphenicol and Aureomycin.

Several chapters have been rewritten, e.g. antibacterial and antimalarial therapy. There are useful short summaries and classifications, and subsections on treatment with drugs, as for example, of asthma, congestive heart failure, hyperthyroidism.

There are a few minor points which may need correction in view of recent research, for example, progesterone appears to be effective by mouth; the action of mephenesin (Myanesin) may be on motor paths in the basal ganglia.

THE HINGE GRAFT

The Hinge Graft or Ginglymus Implant. By Arnold K. Henry, M.B., M.Ch., F.R.C.S.L. (Pp. 64 with 47 figures. 15s.) Edinburgh: E. & S. Livingstone Ltd. 1950.

Contents: *Introduction*. 1. Calcaneovalgus Deformity. 2. The Durability of Tarsomalleolar Hinge Grafts. 3. Reflections on Grave Calcanean Fracture. 4. Hinge Grafting a Flat Foot after Relieving Spasm. 5. Partial Failures with Postmalleolar Hinge Grafts. 6. Genu Recurvatum treated by Hinge Grafting. 7. Attempts to make a Forearm Stump Prehensile. 8. Hinge Grafting to Replace the Skeleton of Fingers. 9. Wishful Thoughts on Hinge Grafts. Index.

This little book by the author of *Extensile Exposure Applied to Limb Surgery* is one which should be read by every orthopaedic surgeon. It is both provocative and stimulating in its scope. One feels one must read it through to the end in one sitting, and then have time to let the ideas simmer and crystallise.

The formulation by the author of a new principle, that of the hinge graft, seems to have several interesting possibilities. The evidence as presented by the writer and illustrated from the few cases he quotes, seems very convincing. Before pronouncing final judgment on the principle one would like to see its results in cases operated on by other surgeons.

The use of the ginglymus graft in the condition of genu recurvatum as described by the author and the result he obtained, is very striking; also its use in the treatment of spastic flat feet, by the method he describes is very fascinating, although in this condition (since its aetiology and pathology are obscure) it is simply a mechanical rather than a physiological approach to the problem.

It is difficult to imagine how these twig-like grafts can give such stability to a foot with paralytic calcaneovalgus, as is claimed for them in this book, but the illustrations of the post-operative results leave no room for doubt in one's mind, whatever the mechanical basis may be for the method.

The book is published by E. & S. Livingstone of Edinburgh, and as such bears the hall mark of an excellent medical publication.

ATLAS OF ANATOMY

Atlas of Human Anatomy. By M. W. Woerdeman, M.D., F.R.N.A.Sc. In Two Volumes.* (Volume 1: 665 illustrations on 440 pages and index. Illustrations are in colour. Price £7 per set.) Butterworth & Company (Africa) Limited, 1, Lincoln's Court, Masonic Grove, Durban. 1950. (This work only sold in the set.)

Contents: 1. Osteology (*Systema Sceleti*) figs. 1-223. 2. Articulations (*Inucturae Ossium*) figs. 224-320. 3. Musculature (*Systema Musculorum*) figs. 321-512. Index.

This is the first volume of a very interesting and elegantly produced anatomical atlas. The illustrations are of a superb excellence and for the greater part muscles and their attachment are shown in a second colour. An interesting feature in the presentation of the muscles is the inclusion in the drawings of the direction of the muscle fibres.

The anatomical names are given a universal currency through the use of a Latin terminology. This should certainly do much to make the volume readable in all parts of the world.

The complete set will certainly form an interesting reference text for surgeons as well as students, who should find this work a most valuable method of testing the knowledge they have gained in the dissecting room.

Professor Woerdeman's descriptive and regional account of human anatomy should be a most helpful addendum to medical students' dissection manuals, especially at a time when there is less room than ever before in the medical curriculum for the minutiae of morphology.

* Volume 2 ready shortly.

CLINICAL EXAMINATION

Clinical Examination of Patients. By John Forbes, M.D., M.R.C.P. and W. N. Mann, M.D., F.R.C.P. (Pp. 299 + x. With 60 illustrations. 18s.) London: Edward Arnold & Company. 1950.

Contents: 1. Introduction. 2. History-Taking. 3. General Physical Examination. 4. The Skin. 5. The Cardiovascular System. 6. The Respiratory System. 7. The Alimentary System. 8. The Genito-Urinary System. 9. The Central Nervous System. 10. Abnormal Psychological States. 11. The Eye. 12. The Ear, The Nose and The Throat. 13. Bones, Joints and Muscles. 14. Laboratory Investigations. 15. Diagnosis. Index.

A new clinical handbook designed to instruct the student in the examination of his patients deserves also the careful attention of those who teach students.

The authors have discharged admirably their responsibility to be concise, unambiguous and thoroughly informative. The clarity of their exposition and the considerable range of fact to which they introduce the student are worthy of warm commendation. The book's scope is wider than is customary in such clinical introductions, the authors taking the realistic view that radiological and laboratory investigations are inseparable adjuncts to contemporary bedside medicine. One

approves the concise section on biochemical methods and the inclusion of a chapter on psychological disorders.

At first inspection one is disappointed by the lack of clinical photographs, all the illustrations being diagrammatic or radiological. This omission ceases to be felt when one perceives how lucid is the description and how compact and inexpensive the book.

It is unlikely that successful air-encephalography will result from the method here advised; the slight misinformation will no doubt be corrected in the next edition of this excellent guide.

INDUSTRIAL HEALTH

Industrial Health: An Introduction for Students. By R. Passmore, M.A., D.M., F.R.S.E. and C. N. Swanston, M.R.C.S., L.R.C.P., D.P.H., D.I.H. (Pp. 110 with figures and tables. 4s. 6d.) Edinburgh: E. & S. Livingstone Ltd. 1950.

Contents: 1. The Working Population. 2. Assessment of the Health of a Working Community. 3. Factors in the Physical Environment operating adversely on Health and Working Efficiency. 4. Factors in the Psychological and Social Environment operating adversely on Health and Working Efficiency. 5. The Occupational Diseases. 6. Accidents. 7. The Responsibility of Management. 8. Industrial Legislation.

Any publication coming from a Department under the leadership of Professor Crew is likely to be both lively and informed. This volume, written by two members of his staff, is also brief and very much to the point. It aims at the presentation, for students not only of medicine, of the main principles of human physiology and psychology in relation to industrial health and hygiene.

Here, at last, is an introductory textbook in the field of industrial medicine that approaches first things first, shrewdly considering the factors that adversely affect health and working efficiency before proceeding to the occupational diseases (which actually account for only a small fraction of the ill health observed in the industrial population) and to accidents.

This small volume will be as useful in South Africa as in Britain to all those who come into contact with the day-to-day problems of industrial health and welfare.

RADIUM TREATMENT

Malignant Disease and its Treatment by Radium. By Sir Stanford Cade, *K.B.E., C.B.*, F.R.C.S., M.R.C.P. With a foreword by Sir Ernest Rock Carling, F.R.C.P., F.R.C.S., F.F.R. (Pp. 446 + viii. With 182 illustrations, many in colour. Volume III, second edition, 1950. 52s. 6d.) Bristol: John Wright & Sons Limited. London: Simpkin Marshall Limited.

Contents: 21. Malignant Diseases of the Breast. 22. Intrathoracic Tumours. 23. Malignant Diseases of the Oesophagus and Stomach. 24. Malignant Disease of the Uterus. 25. Malignant Disease of the Vagina, Female Urethra, Vulva, and Ovary. 26. Malignant Disease of the Bladder and Penis. 27. Malignant Disease of the Rectum and Anus. Index.

This, the third volume in the series, conforms to the standard of the preceding volumes and maintains the general improvement shown by them.

The rearrangement of the chapters has partially removed one of the displeasing features of the original edition. While the pathological lesions are now discussed in a more normal anatomical sequence, there still seems to be room for a finer adjustment in this regard.

The text follows closely the pattern of the first edition. The modern advances in radium therapy generally receive due mention, though in certain instances, e.g. the Stockholm technique in the treatment of cancer of the body of the uterus, the scanty references do not fit the value and the importance of the procedures.

Despite the example cited, the inclusion of Dr. Lederman as a collaborator has considerably enhanced the value of the work.

The chapter on intrathoracic tumours by C. Price Thomas demonstrates forcibly the recent advances in the surgery of carcinoma of the lung, which is his main concern. He has written succinctly and lucidly but it is a great pity that he has spoiled what otherwise is an outstanding chapter, by statements such as . . . 'and when the ribs have been invaded the pain is quite uninfluenced by X-ray therapy', or again . . . 'the mere size precludes any hope of complete or even partial sterilisation of the tumour.'

A decided increase in the number and in the quality of the illustrations is perhaps one of the more noticeable improvements. In the chapter on intrathoracic tumours alone, 21 additional illustrations have been incorporated.

Curiously, though the title limits the work to . . . *Treatment by Radium*, the discussion allocated to surgical procedures and more surprisingly to X-ray therapy, is generous.

Notwithstanding this one senses, as the title might infer, a somewhat unnatural or forced separation of two components of radiation therapy. This same feeling crops up occasionally when the use of radium is recommended in sites and for lesions contrary to the more general trends in modern radiation therapy.

The volume, however, reflects the wide knowledge and sound clinical acumen the collaborators have of the subject matter with which they individually are most concerned.

CORRESPONDENCE

GROOTE SCHUUR HOSPITAL, BEDS AND 'EUTHANASIA'

To the Editor: The steadily deteriorating conditions at the Groote Schuur Hospital have been causing a great deal of concern to the doctors working at that institution. From time to time the local press gives needed publicity to the problems encountered, but I doubt if the position of the doctors has been given much attention. This position is deplorable.

The doctors working in the Out-Patient Department are developing a hunted and frustrated look. I personally have come to regard my weekly session as a struggle, and there is no joy at any stage of the proceedings. At the end of the morning's work I am irritable, cynical, downhearted, and am quarrelling with my Sisters, my colleagues, and even with the patients. The reason for this sorry state of affairs is quite simple. There are no beds available for sick patients.

My Firm often starts the morning's work with two, three, or sometimes no beds vacant. We admit, or should theoretically be able to do so, to two big wards each of which is subdivided into male and female sections. To start the day's work with the knowledge that almost all those patients who should come in will not be able to be admitted is disheartening in the extreme. Accordingly, we are in the position of having to choose most carefully who should come in, and this is the reason for this letter.

There is no official regulation in this country enabling us to practise euthanasia. This is a lovely word and is derived from the Greek, and has a soft euphonious (also Greek) sound. What it means is that in cold blood, and in slang which is more expressive, we are not allowed by law to bump our patients off! But we do. We have to choose who should come in, and so often four or five patients are sent back to their homes, often hovels, where they spend varying times before they die. We frequently send people away because other more pressing and urgent cases, which have a better chance of survival if they are hospitalized, are brought in. Patients who are really ill are resentful, or their friends with them are, when they are wheeled out of the room, and I personally feel that it is not my function to decide who should die, or who should be brought into hospital to have a sporting chance of survival.

As long as there is no law allowing euthanasia, it is surely wrong to expect me and my colleagues to practise it, because it is clear to many patients and their relations what is happening, and we are subjected to criticism, open insults, and very often the public in the Out-Patient Department holds us responsible for what is taking place.

What we need is more hospitals. And we need them now. While the powers that be are chattering and producing trite and meaningless statements about money, building sites and what not, the people are dying. I sometimes feel the wrong ones are dying.

Consultant Physician.

Cape Town.
6 October 1950.